

## General

### Title

Childhood immunization status: percentage of children 2 years of age who had four diphtheria, tetanus, and acellular pertussis (DTaP); three polio (IPV); one measles, mumps, and rubella (MMR); three H influenza type B (HiB); three hepatitis B (HepB); one chicken pox (VZV); four pneumococcal conjugate (PCV); one hepatitis A (Hep A); two or three rotavirus (RV); and two influenza (flu) vaccines by their second birthday.

### Source(s)

National Committee for Quality Assurance (NCQA). HEDIS 2015 technical specifications for ACO measurement. Washington (DC): National Committee for Quality Assurance (NCQA); 2014. various p.

## Measure Domain

### Primary Measure Domain

Clinical Quality Measures: Process

### Secondary Measure Domain

Does not apply to this measure

## Brief Abstract

### Description

This measure is used to assess the percentage of children who turn two years of age during the measurement year who had four diphtheria, tetanus, and acellular pertussis (DTaP); three polio (IPV); one measles, mumps, and rubella (MMR); three H influenza type B (HiB); three hepatitis B (HepB); one chicken pox (VZV); four pneumococcal conjugate (PCV); one hepatitis A (HepA); two or three rotavirus (RV); and two influenza (flu) vaccines by their second birthday.

The Childhood Immunization Status (ACIS) measure calculates a rate for each vaccine and nine separate combination rates. This measure summary represents the overall rate (combination #10).

Note from the National Quality Measures Clearinghouse (NQMC): For this measure, there are both Electronic and Hybrid Specifications. This NQMC measure summary is based on the Electronic specification. Refer to the original measure documentation for details pertaining to the Hybrid specification.

## Rationale

A basic method for prevention of illness is immunization. Childhood immunizations help prevent serious illnesses such as polio, tetanus and hepatitis. Vaccines are a proven way to help a child stay healthy and avoid the potentially harmful effects of childhood diseases like mumps and measles. Even preventing "mild" diseases saves hundreds of lost school days and work days, and millions of dollars.

This measure follows the Centers for Disease Control and Prevention (CDC) Advisory Committee on Immunization Practices (ACIP) guidelines for immunizations (Kroger et al., 2006).

## Evidence for Rationale

Kroger AT, Atkinson WL, Marcuse EK, Pickering LK, Advisory Committee on Immunization Practices (ACIP) Centers for Disease. General recommendations on immunization: recommendations of the Advisory Committee on Immunization Practices (ACIP) [published errata appear in MMWR Morb Mortal Wkly Rep 2007 Mar 23;56(11):256]. MMWR Recomm Rep. 2006 Dec 1;55(RR-15):1-48. [202 references] [PubMed](#)

National Committee for Quality Assurance (NCQA). HEDIS 2015: Healthcare Effectiveness Data and Information Set. Vol. 1, narrative. Washington (DC): National Committee for Quality Assurance (NCQA); 2014. various p.

## Primary Health Components

Immunization; diphtheria; tetanus; acellular pertussis; polio; measles; mumps; rubella; haemophilus influenza type B; hepatitis B; varicella zoster virus (chicken pox); pneumococcal conjugate; hepatitis A; rotavirus; influenza; children

## Denominator Description

Children who turn two years of age during the measurement year (see the related "Denominator Inclusions/Exclusions" field)

## Numerator Description

Children who had four diphtheria, tetanus, and acellular pertussis (DTaP) vaccinations; three polio (IPV) vaccinations; one measles, mumps, and rubella (MMR) vaccination; three haemophilus influenza type B (HiB) vaccinations; three hepatitis B (HepB) vaccinations; one chicken pox (VZV) vaccination; four pneumococcal conjugate (PCV) vaccinations; one hepatitis A (HepA) vaccination; two or three rotavirus (RV) vaccinations; and two influenza vaccinations by their second birthday (see the related "Numerator Inclusions/Exclusions" field)

## Evidence Supporting the Measure

### Type of Evidence Supporting the Criterion of Quality for the Measure

A clinical practice guideline or other peer-reviewed synthesis of the clinical research evidence

A formal consensus procedure, involving experts in relevant clinical, methodological, public health and organizational sciences

## Additional Information Supporting Need for the Measure

Unspecified

## Extent of Measure Testing

All HEDIS measures undergo systematic assessment of face validity with review by measurement advisory panels, expert panels, a formal public comment process and approval by the National Committee for Quality Assurance's (NCQA) Committee on Performance Measurement and Board of Directors. Once NCQA establishes national benchmarks for accountable care organization (ACO) performance, all measures will undergo formal reliability testing of the performance measure score using beta-binomial statistical analysis. Where applicable, measures also are assessed for construct validity using the Pearson correlation test.

## Evidence for Extent of Measure Testing

Rehm B. (Assistant Vice President, Performance Measurement, National Committee for Quality Assurance, Washington, DC). Personal communication. 2015 Apr 8. 1 p.

## State of Use of the Measure

### State of Use

Current routine use

### Current Use

not defined yet

## Application of the Measure in its Current Use

### Measurement Setting

Accountable Care Organizations

Ambulatory/Office-based Care

### Professionals Involved in Delivery of Health Services

not defined yet

### Least Aggregated Level of Services Delivery Addressed

Multisite Health Care or Public Health Organizations

### Statement of Acceptable Minimum Sample Size

Specified

## Target Population Age

Children who turned two years of age during the measurement year

## Target Population Gender

Either male or female

# National Strategy for Quality Improvement in Health Care

## National Quality Strategy Aim

Better Care

## National Quality Strategy Priority

Health and Well-being of Communities

Prevention and Treatment of Leading Causes of Mortality

# Institute of Medicine (IOM) National Health Care Quality Report Categories

## IOM Care Need

Staying Healthy

## IOM Domain

Effectiveness

# Data Collection for the Measure

## Case Finding Period

The measurement year

## Denominator Sampling Frame

Patients associated with provider

## Denominator (Index) Event or Characteristic

## Denominator Time Window

not defined yet

## Denominator Inclusions/Exclusions

### Inclusions

Children who turn two years of age during the measurement year

### Exclusions

Exclude children who had a contraindication for a specific vaccine from the denominator for all antigen rates and the combination rates. The denominator for all rates must be the same.

Exclude contraindicated children only if administrative data do not indicate that the contraindicated immunization was rendered in its entirety.

Any of the following on or before the patient's second birthday meet exclusion criteria:

*Any Particular Vaccine*: Anaphylactic reaction to the vaccine or its components (Anaphylactic Reaction Due To Vaccination Value Set)

*Diphtheria, Tetanus, and Acellular Pertussis (DTaP)*: Encephalopathy (Encephalopathy Due To Vaccination Value Set) *with* a vaccine adverse-effect code (Vaccine Causing Adverse Effect Value Set)

*Measles, Mumps, and Rubella (MMR), Chicken Pox (VZV), and Influenza*: Immunodeficiency (Disorders of the Immune System Value Set)

*MMR, VZV, and Influenza*: HIV (HIV Value Set)

*MMR, VZV, and Influenza*: Lymphoreticular cancer, multiple myeloma or leukemia (Malignant Neoplasm of Lymphatic Tissue Value Set)

*MMR, VZV, and Influenza*: Anaphylactic reaction to neomycin

*Polio (IPV)*: Anaphylactic reaction to streptomycin, polymyxin B or neomycin

*Hepatitis B*: Anaphylactic reaction to common baker's yeast

### Value Set Information

Measure specifications reference value sets that must be used for HEDIS reporting. A value set is the complete set of codes used to identify the service(s) or condition(s) included in the measure. Refer to the [NCQA Web site](#)  to purchase *HEDIS 2015 Technical Specifications for ACO Measurement*, which includes the Value Set Directory.

## Exclusions/Exceptions

not defined yet

## Numerator Inclusions/Exclusions

### Inclusions

Children who had four diphtheria, tetanus, and acellular pertussis (DTaP); three polio (IPV); one measles, mumps, and rubella (MMR); three haemophilus influenza type B (HiB); three hepatitis B (HepB); one chicken pox (VZV); four pneumococcal conjugate (PCV); one hepatitis A (HepA); two or three rotavirus (RV); and two influenza vaccinations by their second birthday

For MMR, HepB, VZV and HepA, count any of the following:

Evidence of the antigen or combination vaccine, *or*  
Documented history of the illness, *or*

A seropositive test result for each antigen

For DTaP, IPV, HiB, PCV, RV and influenza, count *only*:

Evidence of the antigen or combination vaccine

For combination vaccinations that require more than one antigen (i.e., DTaP and MMR), the organization must find evidence of all the antigens.

*DTaP*: At least four DTaP vaccinations (DTaP Vaccine Administered Value Set), with different dates of service on or before the child's second birthday.

*IPV*: At least three IPV vaccinations (Inactivated Polio Vaccine [IPV] Administered Value Set), with different dates of service on or before the child's second birthday.

*MMR*: Any of the following with a date of service on or before the child's second birthday meet criteria:

At least one MMR vaccination (MMR Vaccine Administered Value Set).

At least one measles and rubella vaccination (Measles/Rubella Vaccine Administered Value Set) and at least one mumps vaccination or history of the illness (Mumps Vaccine Administered Value Set; Mumps Value Set) on the same date of service or on different dates of service.

At least one measles vaccination or history of the illness (Measles Vaccine Administered Value Set; Measles Value Set) and at least one mumps vaccination or history of the illness (Mumps Vaccine Administered Value Set; Mumps Value Set) and at least one rubella vaccination or history of the illness (Rubella Vaccine Administered Value Set; Rubella Value Set) on the same date of service or on different dates of service.

*HiB*: At least three HiB vaccinations (HiB Vaccine Administered Value Set), with different dates of service on or before the child's second birthday.

*HepB*: Either of the following on or before the child's second birthday meet criteria:

At least three hepatitis B vaccinations (Hepatitis B Vaccine Administered Value Set), with different dates of service.

History of hepatitis illness (Hepatitis B Value Set).

*VZV*: Either of the following on or before the child's second birthday meet criteria:

At least one VZV vaccination (VZV Vaccine Administered Value Set), with a date of service on or before the child's second birthday.

History of varicella zoster (e.g., chicken pox) illness (Varicella Zoster Value Set).

*PCV*: At least four pneumococcal conjugate vaccinations (Pneumococcal Conjugate Vaccine Administered Value Set), with different dates of service on or before the child's second birthday.

*HepA*: Either of the following on or before the child's second birthday meet criteria:

At least one HepA vaccination (Hepatitis A Vaccine Administered Value Set), with a date of service on or before the child's second birthday.

History of HepA illness (Hepatitis A Value Set).

*RV*: Any of the following on or before the child's second birthday meet criteria:

At least two doses of the two-dose rotavirus vaccine (Rotavirus Vaccine [2 Dose Schedule] Administered Value Set) on different dates of service.

At least three doses of the three-dose rotavirus vaccine (Rotavirus Vaccine [3 Dose Schedule] Administered Value Set) on different dates of service.

At least one dose of the two-dose rotavirus vaccine (Rotavirus Vaccine [2 Dose Schedule] Administered Value Set) and at least two doses of the three-dose rotavirus vaccine (Rotavirus Vaccine [3 Dose Schedule] Administered Value Set), all on different dates of service.

*Influenza*: At least two influenza vaccinations (Influenza Vaccine Administered Value Set), with different dates of service on or before the child's second birthday.

#### Exclusions

*DTaP, IPV, HiB, PCV and RV*: Do not count any vaccination administered prior to 42 days after birth.

*Influenza*: Do not count any vaccination administered prior to six months (180 days) after birth.

#### Value Set Information

Measure specifications reference value sets that must be used for HEDIS reporting. A value set is the complete set of codes used to identify the service(s) or condition(s) included in the measure. Refer to the [NCQA Web site](#)  to purchase *HEDIS 2015 Technical Specifications for ACO Measurement*, which includes the Value Set Directory.

## Numerator Search Strategy

Fixed time period or point in time

## Data Source

Administrative clinical data

Electronic health/medical record

Paper medical record

## Type of Health State

Does not apply to this measure

## Instruments Used and/or Associated with the Measure

Unspecified

## Computation of the Measure

### Measure Specifies Disaggregation

Measure is disaggregated into categories based on different definitions of the denominator and/or numerator

### Basis for Disaggregation

This measure is disaggregated based on different definitions of the numerator. This measure calculates a rate for each vaccine and nine separate combination rates.

Vaccines:

Diphtheria, tetanus, and acellular pertussis (DtaP)

Polio (IPV)

Measles, mumps, and rubella (MMR)

H influenza type B (HiB)

Hepatitis B (HepB)  
Chicken pox (VZV)  
Pneumococcal conjugate (PCV)  
Hepatitis A (HepA)  
Rotavirus (RV)  
Influenza

#### Combination Rates:

Combination 2: DTap, IPV, MMR, HiB, HepB, VZV  
Combination 3: DTap, IPV, MMR, HiB, HepB, VZV, PCV  
Combination 4: DTap, IPV, MMR, HiB, HepB, VZV, PCV, HepA  
Combination 5: DTap, IPV, MMR, HiB, HepB, VZV, PCV, RV  
Combination 6: DTap, IPV, MMR, HiB, HepB, VZV, PCV, Influenza  
Combination 7: DTap, IPV, MMR, HiB, HepB, VZV, PCV, HepA, RV  
Combination 8: DTap, IPV, MMR, HiB, HepB, VZV, PCV, HepA, Influenza  
Combination 9: DTap, IPV, MMR, HiB, HepB, VZV, PCV, RV, Influenza  
Combination 10: DTap, IPV, MMR, HiB, HepB, VZV, PCV, HepA, RV, Influenza

## Scoring

Rate/Proportion

## Interpretation of Score

Desired value is a higher score

## Allowance for Patient or Population Factors

not defined yet

## Description of Allowance for Patient or Population Factors

The Accountable Care Organization (ACO) aggregate population is reported as a whole, with an option to report Medicaid separately for measures for which HEDIS Health Plan Measurement offers Medicaid specifications.

## Standard of Comparison

not defined yet

## Identifying Information

### Original Title

Childhood immunization status (ACIS).

### Measure Collection Name

HEDIS 2015: Accountable Care Organization (ACO) Collection



## Measure Set Name

Effectiveness of Care

## Measure Subset Name

Prevention and Screening

## Submitter

National Committee for Quality Assurance - Health Care Accreditation Organization

## Developer

National Committee for Quality Assurance - Health Care Accreditation Organization

## Funding Source(s)

Unspecified

## Composition of the Group that Developed the Measure

National Committee for Quality Assurance's (NCQA's) Measurement Advisory Panels (MAPs) are composed of clinical and research experts with an understanding of quality performance measurement in the particular clinical content areas.

## Financial Disclosures/Other Potential Conflicts of Interest

In order to fulfill National Committee for Quality Assurance's (NCQA's) mission and vision of improving health care quality through measurement, transparency and accountability, all participants in NCQA's expert panels are required to disclose potential conflicts of interest prior to their participation. The goal of this Conflict Policy is to ensure that decisions which impact development of NCQA's products and services are made as objectively as possible, without improper bias or influence.

## Endorser

National Quality Forum - None

## NQF Number

not defined yet

## Date of Endorsement

2014 Dec 23

## Adaptation

This measure was adapted from the *HEDIS Technical Specifications for Health Plans* ("HEDIS Health Plan Measurement") and *HEDIS Physician Measurement*.

## Date of Most Current Version in NQMC

2014 Nov

## Measure Maintenance

Annual

## Date of Next Anticipated Revision

Unspecified

## Measure Status

This is the current release of the measure.

This measure updates a previous version: National Committee for Quality Assurance (NCQA). HEDIS 2013 technical specifications for ACO measurement. Washington (DC): National Committee for Quality Assurance (NCQA); 2012. various p.

The measure developer reaffirmed the currency of this measure in November 2015.

## Measure Availability

Source available for purchase from the [National Committee for Quality Measurement \(NCQA\) Web site](#)

.

For more information, contact NCQA at 1100 13th Street, NW, Suite 1000, Washington, DC 20005; Phone: 202-955-3500; Fax: 202-955-3599; Web site: [www.ncqa.org](http://www.ncqa.org) .

## NQMC Status

This NQMC summary was completed by ECRI Institute on May 1, 2014.

This NQMC summary was updated by ECRI Institute on February 10, 2015.

The information was reaffirmed by the measure developer on November 2, 2015.

## Copyright Statement

This NQMC summary is based on the original measure, which is subject to the measure developer's copyright restrictions.

Content adapted and reproduced with permission from the National Committee for Quality Assurance (NCQA). HEDIS® is a registered trademark of NCQA. HEDIS measures and specifications were developed by and are owned and copyrighted by NCQA. HEDIS measures and specifications are not clinical guidelines and do not establish a standard of medical care. NCQA makes no representations, warranties, or endorsement about the quality of any organization or physician that uses or reports performance

measures and NCQA has no liability to anyone who relies on such measures or specifications. Limited proprietary coding is contained in the measure specifications for convenience. Users of the proprietary code sets should obtain all necessary licenses from the owners of these code sets. NCQA disclaims all liability for use or accuracy of any coding contained in the specifications.

Anyone desiring to use or reproduce the measure abstracts without modification for a non-commercial purpose may do so without obtaining any approval from NCQA. All commercial uses of the measure abstracts must be approved by NCQA and are subject to a license at the discretion of NCQA. To purchase copies of the full measures and specifications, which contain additional distribution and use restrictions, contact NCQA Customer Support at 888-275-7585 or visit [www.ncqa.org/publications](http://www.ncqa.org/publications)

## Production

### Source(s)

National Committee for Quality Assurance (NCQA). HEDIS 2015 technical specifications for ACO measurement. Washington (DC): National Committee for Quality Assurance (NCQA); 2014. various p.

## Disclaimer

### NQMC Disclaimer

The National Quality Measures Clearinghouse<sup>®</sup> (NQMC) does not develop, produce, approve, or endorse the measures represented on this site.

All measures summarized by NQMC and hosted on our site are produced under the auspices of medical specialty societies, relevant professional associations, public and private organizations, other government agencies, health care organizations or plans, individuals, and similar entities.

Measures represented on the NQMC Web site are submitted by measure developers, and are screened solely to determine that they meet the [NQMC Inclusion Criteria](#).

NQMC, AHRQ, and its contractor ECRI Institute make no warranties concerning the content or its reliability and/or validity of the quality measures and related materials represented on this site. Moreover, the views and opinions of developers or authors of measures represented on this site do not necessarily state or reflect those of NQMC, AHRQ, or its contractor, ECRI Institute, and inclusion or hosting of measures in NQMC may not be used for advertising or commercial endorsement purposes.

Readers with questions regarding measure content are directed to contact the measure developer.